

## ***MSP/MCD DECAL APPLICATION POLICY FOR SCHOOL BUSES***

### **FUEL SYSTEMS**

#### **Fuel Systems: Liquid**

**RED:** A fuel system with a dripping leak at any point. including refrigeration or heater fuel systems.

**RED:** A fuel tank not securely attached to the vehicle.

**RED:** A fuel system that fails to comply with *MCLA 257.1829*.

#### **Fuel Systems: Gaseous (Compressed Natural Gas (CNG), Liquefied Petroleum Gas (LPG) and Liquefied Natural Gas (LNG))**

OCCUPATIONAL SAFETY NOTE: Personnel must exercise extreme caution whenever checking a gaseous fuel system for leaks. Any possibility of creating sparks, static electricity, friction, etc. must be avoided, as they could cause a fire or explosion.

OCCUPATIONAL SAFETY NOTE: Vehicles with leaking gaseous fuel systems must be parked carefully. Gases escaping from CNG and LNG systems will rise. If the vehicle is parked inside a building or under a canopy, roof or similar cover, combustible gasses can collect beneath the ceiling. Escaping LPG falls and can form a “pool” of combustible gas near the ground and displaces air including oxygen. LPG and liquid LNG will flow into open drains. Combustible gases can explode when ignited by an open flame or spark.

Michigan State Police Motor Carrier Division personnel are not to conduct a bubble test without proper training and prior supervisor approval.

#### **CNG or LPG**

**RED:** Any fuel leakage from the CNG or LPG system detected by smell and verified by either a bubble test using non-ammonia, non-corrosive soap solution or a flammable gas detection meter.

**RED:** Any fuel leakage from the CNG or LPG system detected audibly and verified by either a bubble test using non- ammonia, non-corrosive soap solution or a flammable gas detection meter.

**NOTE:** Verification is needed to ensure that the sound is not either internal to the fuel system, such as gas flowing in a pressure regulator, or pressure equalizing between manifolded tanks or a leak in the air brake system.

**RED:** Any fuel leakage from the CNG or LPG system detected visibly (evidence such as ice buildup at fuel system connections and fittings) and verified by either a bubble test using non-ammonia, non-corrosive soap solution or a flammable gas detection meter.

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### **FUEL SYSTEMS (cont.)**

**NOTE:** Some brief fuel leakage or decompression may occur during refueling, causing temporary frosting of CNG or LPG fuel system parts. If the vehicle has been refueled shortly before inspection, care must be taken to distinguish these temporary frosting occurrences from actual leaks.

#### **LNG**

**OCCUPATIONAL SAFETY NOTE:** LNG is a cryogenic material and presents a potential safety hazard due both to the extremely cold temperature of its liquid and the flammability of its vapor. Personnel inspecting such systems should exercise utmost caution including the wearing of proper eye protection, gloves and clothing.

**NOTE:** LNG liquid and vaporized gas is odorless and undetectable by human sense of smell. Frost buildup is not necessarily evidence of leakage. Many components of LNG fuel systems are extremely cold and will exhibit an even coat of frost produced by moisture in the surrounding air condensing and freezing on them.

**RED:** A cloud of water vapor coming from any component of the fuel system

**NOTE:** It is normal, particularly in humid conditions, for water vapor to collect around many portions of a LNG fuel system.

**RED:** Any leak detected by a methane detection meter

**RED:** Dripping liquid that boils or vaporizes in the air